

Pediocartes. Apart from this minor point, the femur of this hybrid fills the ideal place in a series of three that otherwise insensibly intergrade in all particulars.

This completes my account of the few bones that I have of the skeleton of this very interesting specimen, and in conclusion it but remains for me to thank, as I here do, Mr. Brewster for his kindness in having placed them at my disposal for description. It is fortunate that the specimen fell into such excellent hands, for we fear that with many others the fate of the body would have been quite different. I refer to that thoughtless class of ornithologists who seem to think that their science begins and ends when they have "shot a bird, skinned it, and then thrown away the characters." This is the first hybrid of this kind that has ever come under my observation, but I am inclined to believe that others, more or less like it, will be met with in the future. Were it possible to domesticate these two genera of Grouse, I believe they would frequently cross under such conditions, and very likely the vast majority of the eggs would prove to be fertile.

RECENT LITERATURE.

Ornithology of the Death Valley Expedition. — Part II¹ of the report on the Death Valley Expedition, organized and carried on under authority of the U. S. Department of Agriculture in 1891 by Dr. C. Hart Merriam, Chief of the Division of Ornithology and Mammalogy, is published in advance of Part I, and consists of eight special reports, as follows: (1) Report on Birds, by A. K. Fisher, M. D.; (2) Report on Reptiles and Batrachians, by Leonhard Stejneger; (3) Report on Fishes, by Charles H. Gilbert, Ph. D.; (4) Report on Insects, by C. V. Riley, Ph. D.; (5) Report on Mollusks, by R. E. C. Stearns, Ph. D.; (6) Report on Desert Trees and Shrubs, by C. Hart Merriam, M. D.; (7) Report on Desert Cactuses and Yuccas, by C. Hart Merriam, M. D.; (8) List of

¹ The Death Valley Expedition, a Biological Survey of parts of California, Nevada, Arizona, and Utah. Part II.—North American Fauna, No. 7, pp. 402, pll. xiv, frontispiece, two cuts in text, and 5 maps. U. S. Department of Agriculture, Division of Ornithology and Mammalogy. Washington, 1893. (Published May 31, 1893.)

Localities, by T. S. Palmer. Part I, not yet ready for the press, will contain "the general report (itinerary, description of the region, and discussion of life zones) and the report on the mammals."

Dr. Fisher's report on the birds is entitled 'Report on the Ornithology of the Death Valley Expedition of 1891, comprising notes on the Birds observed in southern California, southern Nevada, and parts of Arizona and Utah,' and occupies pp. 7-158. It comprises an annotated list of 290 species, all of the observations made by the different members of the Expedition being combined into one general report, instead of the principal localities being treated separately. At the end of the main list, however, are given a 'List of Birds observed in Death Valley, California' (pp. 150-152), numbering 78 species, and a 'List of the birds found in Owens Valley, California' (pp. 153-158), numbering 137 species. Both of these supplemental lists are briefly annotated, and serve to throw sharply into relief the ornithological peculiarities of these two extremely interesting localities. We are also promised that "a few local lists will be found under particular areas in Part I,"—a very wise arrangement, from the standpoint of convenience in studying the faunal aspects of particular localities.

In addition to the observations made by the main expedition, a number of side trips were undertaken to special localities, thus greatly increasing the number of species noted. "Among these trips may be mentioned one made by Dr. Merriam and Mr. Bailey, who extended their observations as far east as St. George, Utah." A trip was also made "by Mr. Nelson along the coast from San Simeon to Carpenteria, and one to Monterey by Mr. Bailey."

In this way the list is made to cover a very large area, extending from the coast of southern California eastward to some distance into Arizona. The observations appear to have been made mainly by Drs. Merriam and Fisher and Messrs. Vernon Bailey, B. H. Dutcher, E. W. Nelson, T. S. Palmer, and F. Stephens. The paper is of course an exceedingly important contribution to our knowledge of the distribution of birds over the area in question, especially as regards such previously little-known portions as Death Valley and its immediate vicinity. Outside of this area the known range of a number of species was considerably extended to the eastward or northward, according to the species. Thus the range of the Plumed Partridge (*Oreortyx pictus plumiferus*) was carried eastward to Mount Magruder in Nevada, and to the desert ranges of southern California west of Death Valley. Baird's Woodpecker (*Dryobates scalaris bairdi*) was found to range northward as far as the Santa Clara Valley in southwestern Utah, and the range of Scott's Oriole (*Icterus parisorum*) was carried equally far north.

The Texas Nighthawk (*Chordeiles acutipennis texensis*) and the Costa's Hummingbird (*Calypte costae*) were also found to range northward to about the same line (parallel of 38°), and a single specimen of the Vermilion Flycatcher (*Pyrocephalus rubineus mexicanus*) was taken

at St. George, Utah. Especially interesting also is the finding of the Gray-crowned Finch (*Leucosticte tephrocotis*) breeding in the Sierra Nevada and White Mountains in eastern and southern California, its breeding grounds being not only previously unknown, but the genus even had not before been reported from this region. As Dr. Fisher remarks: "The knowledge that this bird breeds as stated makes its distribution in relation to the other species of the genus a little more clear." Much light was thrown also upon the habitat of Thurber's Junco (*Junco hyemalis thurberi*), which was found to breed commonly in most of the desert ranges of southeastern California, as well as in the southern portion of the Sierra Nevada.

Of the California Vulture Dr. Fisher writes: "It was with considerable surprise and pleasure that we found the California Vulture still tolerably common in certain localities west of the Sierra Nevada, in California." At San Emigdio, in Kern County, "Mr. Nelson found it quite common in October, and was told that it became very numerous there in winter."

The annotations, often quite extended, relate almost exclusively to the distribution of the species, being not at all technical and not to any great extent biographical.

While the other special papers in the 'Report' hardly call for particular remark in the present connection, it should be noted that Mr. Palmer's detailed descriptive list of the localities visited by the Death Valley Expedition is a most important and convenient adjunct to the Report, rendering it possible, in connection with the excellent map of the region traversed, to locate nearly every locality mentioned, a large number of which are for the first time indicated on any accessible map.

Dr. Merriam's notes on the distribution of the trees and shrubs, and the yuccas and cactuses, are also of special interest to zoölogists as well as botanists, aside from their more practical and general interest. "Most of the desert shrubs," say Dr. Merriam, "are social plants and are distributed in well-marked zones, the vertical limits of which are fixed by the temperature during the period of growth and reproduction. . . . The principal plant zones conform also to the animal zones, as defined by the limits of distribution of terrestrial mammals, birds, and reptiles." The limits of distribution, however, in the case of plants are much more readily traced than in the case of animals, and thus plants, and particularly trees and shrubs, serve admirably in aiding to determine natural areas of distribution. Of special interest in this connection are maps 3 and 4, giving respectively the distribution of Leconte's Thrasher (*Harpophynchus lecontei*) and the creosote bush, where at first sight the colored areas seem to be almost identical. "The creosote bush (*Larrea tridentata*) is the most conspicuous, most widely distributed, and best known bush of the torrid deserts of the southwest, where it covers the gravel soils up to a certain line, which probably marks the southern limit of killing frost" (p. 286). Map 2 illustrates the "Lower Division of the Lower Sonoran Life Zone," which is "the area in which the raising

grape may be successfully produced." As already said, the general discussion of these 'Life Zones' is to be given in Part I of the Report, which is to appear later. We have here, however, some intimation of the great importance of the results of this well-planned and most successfully executed biological survey of a region of unexcelled interest to the naturalist.—J. A. A.

Hatch's Notes on the Birds of Minnesota.¹—This volume is by far the most considerable contribution to the ornithology of Minnesota that has yet appeared. All previous publications have been of the nature of briefly annotated lists or fragmentary accounts of the birds of limited areas. The present, however, is a substantial little book of 487 pages, aiming to present a formal account of the ornithology of the State as a whole. Each species is dealt with at more or less length, to some of the most interesting or important ones several pages being devoted. The general distribution within the State, manner of representation, dates of arrival and departure, habits, song, nidification, etc., are treated of in nearly all cases. The matter is presented in an attractive and entertaining style which makes the book readable and interesting to all and will serve to recommend it especially to a class of readers among whom it will largely circulate within the State where it is issued. Not a few of the histories are written in the author's most exuberant, enthusiastic, and, it may be added, fanciful strain, presenting word-pictures of a vivid and lively kind which break acceptably into the usually monotonous and unimaginative character of such writings. Some of these sketches are perhaps a little too full of sentiment and imagery, but if so it is a fault that the general reader at least will no doubt readily condone. The pages of the book are here and there marred, in the opinion of the reviewer, by the introduction of ironical or vindictive remarks directed chiefly against what are denominated "poaching collectors" "carpet concluders," "the galloping herd of itinerant ornithologists," etc., etc.; but with an occasional thrust at offenders of higher rank, some of the foremost ornithologists of the land not escaping unscathed.

Dr. Philo L. Hatch, the author of these 'Notes,' coming to Minnesota in the early days of its history and devoting himself methodically to the study of the birds from the very first, has long been looked upon as the natural and unquestioned representative of the ornithological interests of the State. In the early days he stood almost alone, and enjoyed, so far as the observation of certain groups of birds was concerned, the exceptional and never-to-be-repeated opportunities afforded by a country just emerging from a state of almost primitive wildness. He was zealous and enthusi-

¹ The Geological and Natural History Survey of | Minnesota. | — | First Report | of the | State Zoölogist, | accompanied with | Notes on the Birds of Minnesota, | By Dr. P. L. Hatch. | — | Henry F. Nachtrieb, State Zoölogist. | — | June. 1892. | — | Minneapolis: | Harrison & Smith, Printers. | 1892.—8°. pp. 487.